PATENT
YR0-25

AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

In re Application of: Robert A. Wiedeman et al	: Date: July 14, 2005
Serial No. 09/841,862	: Group Art Unit: 2665
Filed: April 25, 2001	: Examiner: Daniel J. Ryman
For: User Terminal Employing Quality of Service Path Determination and Bandwidth Saving Mode for a Satellite ISP System Using Non-Geosynchronous Orbit Satellites	:

APPEAL BRIEF TRANSMITTAL LETTER

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Enclosed is an Appeal Brief, in triplicate, for the above patent application.

___ Appellant petitions for an extension of time for month(s). If an additional extension of time is required, please consider this a petition therefor.
Fee:

___ An extension for month(s) has already been secured; the fee paid therefore is deducted from the total fee due for the total months of extension now requested. Extension fee due with this request:

_X_ Appellant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that appellant has inadvertently overlooked the need for a petition for extension of time.

___ The Appeal Brief Fee was paid in a prior appeal in which there was no decision on the merits by the Board of Appeals.

___ The Appeal Brief Fee is enclosed herewith. Fee: $500.00

_X_ Charge the Appeal Brief Fee to my Credit Card. Credit Card Payment Form PTO-2038 is enclosed herewith.

_X_ The total fee due is $500.00

_X_ Address all correspondence to Joyce Kosinski, Karambelas & Associates, 655 Deep Valley Drive, Suite 303, Rolling Hills Estates, CA 90274.

This letter is submitted in triplicate.

Respectfully submitted,

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PATENT
Docket No. YR0-25

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:	Robert A. Wiedeman et al
SERIAL NUMBER:	09/841,862
FILING DATE:	April 25, 2001
FOR:	User Terminal Employing Quality of Service Path Determination and Bandwidth Saving Mode for a Satellite ISP System Using Non-Geosynchronous Orbit Satellites
GROUP ART UNIT:	2665
EXAMINER:	Daniel J. Ryman

CERTIFICATE OF MAILING
UNDER 37 CFR 1.8

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Identification of Transmitted Papers

Appeal Brief in triplicate, Appeal Brief Transmittal Letter in triplicate, Credit Card Payment Form PTO-2038, return receipt postcard

I hereby certify that the above-identified correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on **July 14, 2005**.

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PATENT
YR0-25

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

Appeal No._____

In re Application of: ROBERT A. WIEDEMAN ET AL

Serial No.: 09/841,862

Filed: April 25, 2001

For: USER TERMINAL EMPLOYING QUALITY OF SERVICE PATH DETERMINATION AND BANDWIDTH SAVING MODE FOR A SATELLITE ISP SYSTEM USING NON-GEOSYNCHRONOUS ORBIT SATELLITES

APPELLANTS' BRIEF ON APPEAL

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

In re Application of: ROBERT A. WIEDEMAN ET AL	: Date: July 14, 2005
Serial No.: 09/841,862	: Group Art Unit: 2665
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APPELLANTS' BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is taken from the decision of the Examiner in the Office Action dated April 18, 2005 finally rejecting Claims 1-7 and 14-20 of the above-identified patent application. This brief is submitted in accordance with the provisions of 37 C.F.R. §41.37.

REAL PARTY IN INTEREST

The real party in interest is Globalstar L.P. which acquired rights to the present application by way of an assignment from the inventors.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellants, Appellants' legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-7 and 14-20 are currently pending in this application. Claims 1-7 and 14-20 were finally rejected in the Office Action dated April 18, 2005. Appellants appeal from this final rejection.

STATUS OF AMENDMENTS

A communication responsive to the final rejection dated April 18, 2005 was filed with no amendments made therein.

SUMMARY OF CLAIMED SUBJECT MATTER

In a first aspect of these teachings a method is provided for operating a mobile satellite telecommunications system, as is a system that operates in accordance with the method. The method has steps of providing at least one user terminal, at least one satellite in earth orbit and at least one gateway bidirectionally coupled to a data communications network and, responsive to applications, selecting with the user terminal individual ones of a plurality of Quality of Service (QoS) modes for servicing different application requirements. The method further includes communicating a request for a selected one of the QoS modes at least to the gateway, and in response allocating resources to accommodate the requested QoS mode. The method may select one of a circuit switched or a packet switched mode of operation with the user terminal. Preferably the user is billed a greater amount for use of a QoS of higher quality.

The QoS modes include a Highest Quality of Service mode, a Medium Quality of Service mode, a Best Available Quality of Service mode, and a Guaranteed Data Rate Packet Data Service mode.

In a further aspect of these teachings a method provides at least one user terminal, a constellation of satellites in earth orbit and at least one gateway bidirectionally coupled to a data communications network and, in response to at least stored satellite ephemeris information, selects a path through the satellite constellation to a destination gateway for routing a communication to or from the data communication network and the user terminal, and transmits a description of the selected path from the user terminal to at least one of the constellation of satellites. The selection of the path is further responsive to stored gateway location information for selecting the path through the satellite constellation to the destination gateway.

In a further aspect of these teachings a method provides at least one user terminal, a constellation of satellites in earth orbit and at least one gateway bidirectionally coupled to a data communications network, and operates so as to reduce an amount of information contained within a packet header after transmitting a first packet to at least one satellite of the constellation of satellites. Preferably the packet header of the first packet contains information that is descriptive of at least an identification of a source address and a destination address of the packet, and a connection identifier identifying a communication connection to which the packet belongs. Headers of subsequent packets of the communication connection may contain only the connection identifier. The method further

extracts and stores the information from the header of the first packet in the satellites, and routes subsequent packets based on the stored information and on the connection identifier. The method further expands the subsequently transmitted packet heads to contain the stored information prior to being transmitted to the data communication network.

The subject matter defined in each of the independent claims involved in the appeal can be found in the specification on page 2, line 21 through page 3, line 6, and page 8, line 19 through page 11, line 9 (claims 1 and 14); page 3, lines 8-17 (claims 6 and 19); and in at least Figure 1 wherein there is shown user terminal 10, satellite 40, gateway 50 and controller 18.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-5 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow U. S. Patent 6,608,832 in view of Roccanova U. S. Patent 6,522,658.
2. Claims 6, 7, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow 6,608,832 in view of Roccanova 6,522,658 in further view of Wiedeman et al U. S. Patent 5,655,005.

ARGUMENT

Rejection under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 6,608,832 to Forslow in view of U. S. Patent 6,522,658 to Roccanova

The Examiner states regarding claims 1 and 14, Forslow discloses a mobile telecommunications system and method, comprising: at least one user terminal (col. 6, lines 48-54); and at least one gateway bidirectionally coupled to a data communications network (col. 6, lines 60-64); said user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of Quality of Service (QoS) modes for servicing different application requirements (col. 5, lines 41-60 and col. 6, lines 48-64).

The Examiner admits that Forslow does not expressly disclose that the mobile telecommunications system is mobile satellite telecommunications system which includes at least one satellite in earth orbit; however, Forslow does disclose that the invention can be used in a variety of mobile telecommunication systems, directing Appellants' attention to col. 8, lines 60-63. The Examiner submits that Roccanova teaches that it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems since orbital designs must accommodate the need for short round trip times required for voice data, directing Appellants' attention to col. 1, lines 32-36. Thus, the Examiner concludes it would have been obvious to one of ordinary skill in the art at the

time of the invention to have the mobile telecommunications system be a mobile satellite telecommunications system, which includes at least one satellite in earth orbit, since it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems.

Appellants respectfully contend that in Forslow U.S. 6,608,832 there is disclosed "Applications running on a mobile station or an external network entity such as an Internet service provider may specify on an individual application flow basis a requested quality of service." At col. 6, lines 48-54 of Forslow there is disclosed "A significant advantage of the present invention is that applications running on a mobile station or on an external network entity such as an Internet service provider may specify on an individual application flow basis a requested quality of service, and with this information, select the type of bearer to be employed when transferring the application flow through the mobile communications "network." Further, at col. 6, lines 60-64 there is disclosed "The mobile station and a mobile network gateway node each include a mapper for mapping individual application flows to one of the circuit-switched network and the packet-switched network bearers depending on the quality of service requested for an individual application flow." At col. 5, lines 41-60 there is a broad ranging discussion of an optimal type of mobile communications network transfer service – a circuit-switched transfer service or a packet-switched transfer service – is specified on an individual application flow basis. Further, at col. 6, lines 48-64, as previously recited, there may be a specification of a quality of service which can be selected at the application layer which is advantageous because the application has the best end-to-end perspective of the communication.

Appellants respectfully contend that it is not at all clear that at col. 6, lines 48-54, as recited above, there is seen, as the Examiner contends, a mobile telecommunications system and method comprising at least one user terminal since what is apparently described is applications running on a mobile station or on an external network entity such as a Internet service provider specifying a quality of service. Furthermore, at col. 6, lines 60-64, Appellants respectfully submit there is no indication either in the drawing of said reference or in the specification that said gateway is bidirectionally coupled to a data communication network as required in the instant claims. Further, as stated above, Appellants are at a loss to discern how at col. 5, lines 41-60 and col. 6, lines 48-64 there is disclosed a user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements as contended by the Examiner.

Appellants respectfully submit that it is not at all clear from the recited passages relied upon by the Examiner that a mobile station and a user terminal are equivalent since they are not stated to be therein and there is no indication as used in the reference that

they are, but nevertheless, what is clearly described as recited above are applications running on a mobile station or on an external network entity such as an Internet service provider specifying a quality of service, not a user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements as required by the fourth element of claim 1, for example. Appellants respectfully contend that although the Examiner submits that in order for the gateway to map communications onto packet switched network bearers, the gateway must be connected to the packet switched network and further is implicit that the gateway is bidirectional since the information flows handled by the gateway include types of flows that require bidirectional communication such as voice communication and surfing on the World Wide Web, pointing Appellants' attention to col. 5, lines 37-51. Appellants respectfully disagree since, at the passages recited by the Examiner to support these contentions, there is a broad ranging discussion of a network technology transferring data only according to one type of transfer mechanism either circuit switched or packet switched. Appellants respectfully contend that this recitation neither suggests, teaches or implies a gateway which is bidirectionally coupled to a data communication network as required in the instant claims, nor is there an explicit teaching of one gateway bidirectionally coupled to a data communication network as required, for example, in element three of claim 1.

Furthermore, Appellants respectfully submit that although they do not necessarily agree that Forslow discloses a mechanism for selecting individual ones of a plurality of quality of service modes for servicing different application requirements since Forslow discloses that each application requirement is assigned a quality of service mode and from this the Examiner concludes that to perform this function is, as broadly defined, a "controller", there is no suggestion, teaching or implication of a user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements as required in element four of, for example, claim 1.

Appellants respectfully submit that at col. 1, lines 32-36 of Roccanova U.S. 6,522,658 there is disclosed "Discriminating and routing data packets based on QoS requirements is of particular importance in satellite-based communication systems where orbital designs must accommodate the need for short round trip times required for voice data." Appellants respectfully submit, however, that Roccanova is directed to "A method is provided for discriminating and routing data packets in a satellite-based communication system (10), comprising the steps of: (a) receiving an input data stream from an application residing on a transmitting device (12); (b) selecting either a first spread spectrum code or a second spread spectrum code based on the quality of service (QOS)

"requirements associated with the first application; (c) applying the selected spread spectrum code to the input data stream, thereby generating a spread spectrum data stream; (d) transmitting the spread spectrum data stream from the transmitting device (12) to a network routing device (14); (e) correlating the spread spectrum data stream with the corresponding selected spread spectrum code to recover the original input data stream; and (f) routing the input data stream to either a low earth orbiting satellite (16) when the first spread spectrum code is used to recover the input data signal or to a geosynchronous orbiting satellite (18) when the second spread spectrum code is used to recover the input data signal."

Among other distinctions, Appellants respectfully submit that Roccanova is not concerned nor does it disclose, for example, at least one user terminal or a gateway bidirectionally coupled to a data communications network in combination with a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements as required in claim 1. Furthermore, Appellants respectfully contend there is neither any suggestion, implication or teaching that Forslow, devoid of any mobile satellite telecommunication disclosure, may be combined with Roccanova which is directed to a method for discriminating and routing data packets in a satellite-based communication system which is not anywhere taught to be mobile in order to reject Appellants' instant claims.

Appellants respectfully contend and restate, as the Examiner admits, that Roccanova is not concerned, nor does it disclose, at least one user terminal or a gateway bidirectionally coupled to a data communications network in combination with a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements. Appellants respectfully disagree with the Examiner, however, that this is why the Examiner has relied on Forslow to disclose these limitations since Forslow does not teach, suggest or imply at least one gateway bidirectionally coupled to a data communication network and a user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of quality of service modes for servicing different application requirements as recited above and as set out in elements three and four of claim 1. Furthermore, Appellants respectfully contend that there is no motivation to combine Forslow '832, devoid of any mobile satellite telecommunications disclosure, with Roccanova '658 which is directed to a method for discriminating and routing data packets in a satellite-based communication system which is not anywhere taught to be mobile in order to reject Appellants' instant claims.

Appellants respectfully submit that this is not in any way overcome by the Examiner's contention that nonobviousness cannot be shown by attacking references individually where the rejections are based on combination of references, citing *In re Keller*,

642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, although Appellants do not necessarily agree that Forslow discloses that the invention can be used in a variety of mobile telecommunication systems, directing Appellants' attention to col. 8, lines 60-63, where the Examiner submits that satellite networks are well known mobile telecommunication systems, and furthermore that Roccanova teaches that it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems, citing col. 1, lines 32-36, Appellants respectfully disagree that Roccanova suggests using a QoS system in combination with a satellite-based communication system and, therefore, the combination of Forslow and Roccanova fails to suggest the limitations of claims 1 and 14 as outlined in the rejection.

The Examiner goes on to state regarding claims 2 and 15, referring to claims 1 and 14, Forslow in view of Roccanova discloses that the user terminal operates to communicate a request for a selected one of said QoS modes at least to said gateway, and in response the system allocates resources to accommodate the requested QoS mode, directing Appellants' attention to Forslow col. 6, lines 3-15 and col. 6, lines 48-64.

Appellants respectfully contend that at col. 6, lines 3-15 and col. 6, lines 48-64 of Forslow there is taught, respectively, quality of service parameters specified by the application for an individual application flow are mapped to corresponding quality of service parameters for the selected one of the circuit-switched or packet-switched bearers. And at col. 6, lines 48-64 "The mobile station and a mobile network gateway node each include a mapper for mapping individual application flows to one of the circuit-switched network and the packet-switched network bearers depending on the quality of service requested for an individual application flow." Appellants respectfully disagree that there is taught, suggested or implied that the user terminal operates to communicate a request for a selected one of said QoS modes at least to said gateway in these recitations relied upon by the Examiner since both disclosures are devoid of any user terminal operation to communicate a request. Furthermore, claims 2 and 15 are patentably distinguishable over Forslow in view of Roccanova for the reasons recited above with regard to claims 1 and 14 which are hereby respectfully incorporated by reference.

Although Appellants do not necessarily agree that Forslow discloses that the gateway map flows according to QoS requirements, however it is the mobile terminal that contains the applications requiring particular QoS levels, as the Examiner contends, Appellants respectfully disagree that it is inherent that the mobile terminal communicates the QoS requirements in some manner to the gateway. Furthermore, Appellants respectfully disagree that this communication can be equated with a request, as contended

by the Examiner, since this is no where taught, suggested or implied in Forslow at col. 6, lines 3-15 nor col. 6, lines 48-64.

Regarding claims 3 and 16, the Examiner refers to claims 1 and 14 stating Forslow in view of Roccanova suggests that a user is billed a greater amount for use of a QoS of higher quality, citing Forslow col. 1, lines 41-62 where Forslow discloses that higher QoS requirements mandate less efficient use of resources.

Appellants respectfully submit that at col. 1, lines 41-62 of Forslow there is disclosed "While bursty traffic can be transmit using a circuit-switched channel, such a transmission underutilizes that channel because there are likely large intervals between bursts when the channel is reserved but is not being used, there is no information to be transmit from or received by the user....However from a customer service view point, because a circuit-switched channel is not shared with other users, the user is essentially guaranteed a "certain quality of service....Communication channels are therefore typically shared by many users. Another advantage is that in contrast to time-oriented charging applied for circuit-switched connections, packet-switched data services allow charging depending on the amount of data actually transmitted and on the quality of service of that transmission."

Appellants respectfully submit that charging is provided depending on the amount of data actually transmitted and on the quality of service of that transmission as opposed to a greater amount for the use of a QoS of higher quality as required in claim 3 alone and in any event claims 3 and 16 are seen to be patentably distinguishable over Forslow in view of Roccanova for the reasons recited above with regard to claims 1 and 14 which are hereby respectfully incorporated by reference.

Appellants respectfully disagree with the Examiner's contentions regarding a pricing scheme which would result in a company charging only a nominal fee for a user who tied up an entire circuit but transmitted only a small amount of data, foregoing profits it would earn by allowing multiple customers to utilize the same circuit, that this suggests that a company charge according to QoS requirements such that a party who receives a higher QoS which is bandwidth inefficient is charged more for the privilege of wasting bandwidth by maintaining the higher QoS. Appellants respectfully submit that the Examiner's reasoning is nowhere supported by Forslow at col. 1, lines 41-62.

The Examiner goes on to state regarding claims 4 and 17, referring to claims 1 and 14, Forslow in view of Roccanova suggests that the QoS modes comprise a Highest Quality of Service mode, a Medium Quality of Service mode, a Best Available Quality of Service mode, citing Forslow col. 5, lines 1-10, and a Guaranteed Data Rate Packet Data Service mode, citing Forslow col. 1, lines 48-51.

Appellants respectfully submit that Forslow at col. 5, lines 1-10, there is disclosed "Generally, quality of service parameters can be characterized qualitatively in three services classes including deterministic (used for hard, real-time application), statistical (used for soft real-time applications), and best effort (everything else where no guarantees are made). Quantitative parameters may include throughput (such as the average data rate or peak data rate), reliability, delay, and jitter corresponding to the variation delay between a minimum and maximum delay time that a message experiences."

Appellants respectfully submit that neither at col. 5, lines 1-10 of Forslow relating to deterministic, statistical and best effort, in addition to the other disclosure relied upon by the Examiner at col. 1, lines 48-51 of Forslow relating to, from a customer service view point because a circuit-switched channel is not shared with other users, the user is essentially guaranteed a certain quality of service; this in no way teaches, discloses or implies the QoS modes comprising a highest quality of service mode, a medium quality of service mode, a best available quality of service mode, and a guaranteed data rate packet data service mode. Notwithstanding this further distinction, Appellants respectfully submit that claims 4 and 17 have been shown to be patentably distinguishable over Forslow in view of Roccanova for those reasons recited above with regard to claims 1 and 14 which are hereby respectfully incorporated by reference.

The Examiner has further contended that Forslow discloses at least three classes of service: deterministic, statistical, and best effort. The Examiner goes on to submit that these classes equate to a highest QoS mode (deterministic), a medium QoS mode (statistical), and a best available QoS mode (best effort). Appellants respectfully submit that the deterministic, statistical and best effort as defined in Forslow at the recited passages relied upon by the Examiner is no way suggests, teaches or implies QoS modes comprising a highest quality of service, a medium quality of service, a best available quality of service, nor a guaranteed data rate packet data service mode as required by claims 4 and 17. The Examiner's statement that Forslow discloses transmitting information according to circuit-switching which equates to guaranteed data rate packet data service mode does little to overcome the deficiency with regard to guaranteed data rate packet data service mode as required by both claims 4 and 17.

The Examiner states regarding claims 5 and 18, referring to claims 1 and 14, Forslow in view of Roccanova discloses that the controller selects one of a circuit switched or a packet switched mode of operation, citing Forslow col. 5, lines 41-51 and col. 6, lines 48-54.

Appellants respectfully disagree, as the Examiner contends, that Forslow discloses selecting between circuit-switching and packet-switching requires that a mechanism be employed to select between circuit and packet switching, and the Examiner concludes that

this mechanism is the controller as required in both claims 5 and 18. Appellants respectfully submit that in the passages recited by the Examiner at col. 5, lines 41-51 of Forslow and at col. 6, lines 48-54, there is no teaching, suggestion or implication of the controller as required in both claims 5 and 18.

Rejection under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 6,608,832 to Forslow in view of U. S. Patent 6,522,658 to Roccanova and further in view of U. S. Patent 5,655,005 to Wiedeman et al

The Examiner has rejected claims 6, 7, 19 and 20 under 35 U.S.C. 103(a) as being unpatentable over Forslow U.S. 6,608,832 in view of Roccanova U.S. 6,522,658 in further view of Wiedeman et al U.S. 5,655,005.

The Examiner states regarding claims 6 and 19, Forslow discloses a mobile telecommunications system and method comprising: at least one user terminal (col. 6, lines 48-54); at least one gateway bidirectionally coupled to a data communications network (col. 6, lines 60-64); and a processor responsive at least to stored information for selecting a path through said network to a destination gateway for routing a communication to or from said data communication network and said user terminal (col. 6, lines 7-10) where the resource reservation approach allows a terminal to select a particular path to transmit the information, and for causing a description of said selected path to be transmitted from said user terminal to at least one node of the network (col. 6, lines 3-15 and col. 6, lines 48-64) where the terminal must inform the system of the selected path in order for the system to use that path.

The Examiner admits that Forslow does not expressly disclose that the mobile telecommunications system is mobile satellite telecommunications system which includes a constellation of satellites in earth orbit; however, the Examiner contends that Forslow does disclose that the invention can be used in a variety of mobile telecommunication systems, citing col. 8, lines 60-63. The Examiner contends that Roccanova teaches that it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems since orbital designs must accommodate the need for short round trip times required for voice data, citing col. 1, lines 32-36 where the satellite communication system uses a constellation of satellites, citing col. 1, lines 37-60. Thus, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the mobile telecommunications system be a mobile satellite telecommunications system, which includes a constellation of satellites in earth orbit, since it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems.

Appellants respectfully contend, as recited above, that at col. 6, lines 48-54 of Forslow there is no where to be found at least one user terminal but applications running on a mobile station or on an external network entity such as an Internet service provider; at col. 6, lines 60-64 of Forslow there is not taught, suggested or implied a gateway bidirectionally coupled to a data communications network; at col. 6, lines 7-10 of Forslow there is neither taught, suggested or implied a processor responsive at least to stored information for selecting a path through said network to a destination gateway for routing communication to or from said data communication network and said user terminal; and finally at col. 6, lines 3-15 and col. 6, lines 48-64 of Forslow there is no where taught, suggested or implied satellite ephemeris information for selecting a path through said satellite constellation to a destination gateway for routing a communication to or from said data communication network and said user terminal and for causing a description of said selected path to be transmitted from said user terminal to at least one of said constellation of satellites as required in claims 6 and 19.

Furthermore, in Forslow at col. 8, lines 60-63 there is no where taught, suggested or implied a constellation of satellites in earth orbit but merely that Forslow does disclose that the invention can be used in a variety of mobile telecommunications systems.

In addition, in Roccanova at col. 1, lines 32-36 and in col. 1, lines 37-60 there is not taught a stored satellite ephemeris information for selecting a path through said satellite constellation to a destination gateway for routing a communication to or from said data communication network and said user terminal and for causing a description of said selected path to be transmitted from said user terminal to at least one of said constellation of satellites as required in both claims 6 and 19.

Thus, Appellants respectfully disagree that it would have been obvious to one of ordinary skill in the art at the time of the invention to have the mobile telecommunications system be a mobile satellite telecommunications system which includes a constellation of satellites in earth orbit since it is important to discriminate and route packets based on QoS requirements in satellite-based communication systems.

The Examiner admits that Forslow in view of Roccanova does not expressly disclose that the processor is responsive at least to stored satellite ephemeris information for selecting a path through said satellite constellation. However, the Examiner contends that Wiedeman teaches in a satellite communication system using satellite ephemeris information in order to select a path through a satellite constellation when the satellites move relative to the end user, citing col. 3, lines 12-26. Thus, the Examiner concludes, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the processor be responsive at least to stored satellite ephemeris information for

selecting a path through said satellite constellation in order to select a path through a satellite constellation when the satellites move relative to the end user.

Appellants respectfully submit that in Wiedeman at col. 3, lines 12-26 there is merely stated "The system operates by effecting communication between a terrestrial wireless telephone end user transceiver apparatus and a terrestrial communications link via only a single relay...wherein the ground-based equipment makes the ultimate decision on linking based on satellite ephemeris information and end user information, and wherein the end user transceiver apparatus, the orbiting satellite and the terrestrial communications link cooperate to effect hand-off from a first orbiting satellite to a second orbiting satellite other than the first orbiting satellite." Appellants respectfully submit this is to be contrasted with ephemeris information for selecting a path through said satellite constellation to a destination gateway for routing a communication to or from said data communication network and said user terminal and for causing a description of said selected path to be transmitted from said user terminal to at least one of said constellation of satellites as required in claims 6 and 19 and not to effect hand-off from a first orbiting satellite to a second orbiting satellite as disclosed in the recited passages relied upon by the Examiner.

The Examiner states regarding claims 7 and 20, referring to claims 6 and 19, Forslow in view of Roccanova in further view of Wiedeman suggests that the processor is further responsive to stored gateway location information for selecting said path through said satellite constellation to said destination gateway, citing Forslow col. 6, lines 3-15 and col. 6, lines 48-64 and Wiedeman col. 3, lines 12-26, where the location of the gateway must be known in order to complete a path through that gateway.

Appellants respectfully submit that in Forslow at col. 6, lines 3-15 there is merely recited, as previously discussed, the quality of service parameters specified by the application for an individual application flow are mapped to corresponding quality of service parameters for the selected one of the circuit-switched or packet-switched bearers....the header of each information packet when read determines whether a circuit-switched bearer or a packet-switched bearer carries that packet; and at col. 6, lines 48-64 there is merely disclosed, as previously recited, applications running on a mobile station or on an external network such as an Internet service provider may specify on an individual application flow basis a requested quality of service and select the type of bearer to be employed when transferring the application flow through the mobile communications network. Appellants respectfully submit that neither of these recitations in Forslow relied upon by the Examiner and further in Wiedeman at col. 3, lines 12-26 relating to hand-off is there taught, suggested or implied a processor further responsive to stored gateway location information for selecting said path through said satellite constellation to said destination gateway as required in both claims 7 and 20. Furthermore, claims 7 and 20 have been seen to be

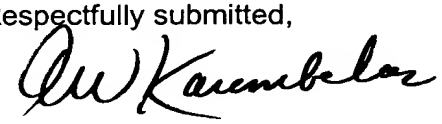
patentably distinguishable over Forslow in view of Roccanova, further in view of Wiedeman, for the reasons cited above with regard to claims 6 and 19 which reasons are hereby incorporated by reference.

Furthermore, Appellants respectfully disagree with the Examiner's contention that the satellite ephemeris data as indicated by Wiedeman discloses the location of the satellites and, since the fastest connection between two points on the earth through the satellite constellation will change depending on the location of the satellites, information pertaining to the location of the satellites is useful in determining how to route data through the constellation. Appellants respectfully disagree that this in any way suggests, teaches or implies that the processor is responsive at least to stored satellite ephemeris information for selecting a path through said satellite constellation. The passage relied upon in Wiedeman at col. 3, lines 12-26 relates to hand-off and does not teach, suggest or imply a processor further responsive to stored gateway location information for selecting said path through said satellite constellation to said destination gateway as required in both claims 7 and 20.

Appellants respectfully submit that in view of the above remarks all of the claims presently under prosecution have been shown to contain patentable subject matter and to be patentably distinguishable over Forslow '832, Roccanova '658 or Wiedeman '005, alone or in any combination.

Accordingly, Appellants respectfully request that the final rejection of the primary Examiner be reversed.

Respectfully submitted,



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CLAIMS APPENDIX

Claims 1-7 and 14-20 as presented below are currently pending in this application.

1. A mobile satellite telecommunications system, comprising:
at least one user terminal;
at least one satellite in earth orbit; and
at least one gateway bidirectionally coupled to a data communications network;
said user terminal comprising a controller responsive to applications for selecting individual ones of a plurality of Quality of Service (QoS) modes for servicing different application requirements.

2. A system as in claim 1, wherein said user terminal operates to communicate a request for a selected one of said QoS modes at least to said gateway, and in response the system allocates resources to accommodate the requested QoS mode.

3. A system as in claim 1, wherein a user is billed a greater amount for us of a QoS of higher quality.

4. A system as in claim 1, wherein said QoS modes comprise a Highest Quality of Service mode, a Medium Quality of Service mode, a Best Available Quality of Service mode, and a Guaranteed Data Rate Packet Data Service mode.

5. A system as in claim 1, wherein said controller selects one of a circuit switched or a packet switched mode of operation.

6. A mobile satellite telecommunications system, comprising:
at least one user terminal;
a constellation of satellites in earth orbit;
at least one gateway bidirectionally coupled to a data communications network; and
a processor responsive at least to stored satellite ephemeris information for selecting a path through said satellite constellation to a destination gateway for routing a communication to or from said data communication network and said user terminal, and for causing a description of said selected path to be transmitted from said user terminal to at least one of said constellation of satellites.

7. A system as in claim 6, wherein said processor is further responsive to stored gateway location information for selecting said path through said satellite constellation to said destination gateway.

14. A method for operating a mobile satellite telecommunications system, comprising:

providing at least one user terminal, at least one satellite in earth orbit and at least one gateway bidirectionally coupled to a data communications network; and

responsive to applications, selecting with said user terminal individual ones of a plurality of Quality of Service (QoS) modes for servicing different application requirements.

15. A method as in claim 14, and further comprising communicating a request for a selected one of said QoS modes at least to said gateway, and in response allocating resources to accommodate the requested QoS mode.

16. A method as in claim 14, wherein a user is billed a greater amount for use of a QoS of higher quality.

17. A method as in claim 14, wherein said QoS modes comprise a Highest Quality of Service mode, a Medium Quality of Service mode, a Best Available Quality of Service mode, and a Guaranteed Data Rate Packet Data Service mode.

18. A method as in claim 14, and further comprising selecting one of a circuit switched or a packet switched mode of operation with said user terminal.

19. A method for operating a mobile satellite telecommunications system, comprising:

providing at least one user terminal, a constellation of satellites in earth orbit and at least one gateway bidirectionally coupled to a data communications network; and

responsive at least to stored satellite ephemeris information, selecting a path through said satellite constellation to a destination gateway for routing a communication to or from said data communication network and said user terminal, and transmitting a description of said selected path from said user terminal to at least one of said constellation of satellites.

20. A method as in claim 19, wherein the step of selecting a path is further responsive to stored gateway location information for selecting said path through said satellite constellation to said destination gateway.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX